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(71) Applicant (for all designated States except US):
PLANTECHNO SRL [IT/IT]; Via Staffolo, 60, I-26040
Vicomoscano (IT).

(72) Inventor; and

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(75) Inventor/Applicant (for US only): FOGHER, Corrado [IT/IT]; Via Ticino, 32, I-26041 Casalmaggiore (IT).

(74) Agents: LEONE, Mario et al.; Società Italiana Brevetti S.p.A., Piazza di Pietra, 39, I-00186 Roma (IT). (81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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(57) Abstract

A synthetic polynucleotide encoding human lactoferrin, modified with respect to the natural gene so as to maximize its expression in vegetals, on the basis of the preferential use of the codons is described. Moreover, the vectors containing such sequence, that having regulation elements activated in a controlled way determine its tissue— and stage—specific expression are further described. The vegetal cells and the plants transformed with the afore mentioned vectors, as well as the production processes of functional foods, vegetal milks, and human lactoferrin, utilizing them are also described.